

CLAIMS

What is claimed is:

1. A method of treating asthma in a subject comprising administering an anti-C5 antibody to a subject susceptible to or having asthma.
- 5 2. A method of preventing asthma attacks comprising prophylactically administering an anti-C5 antibody to a subject having established airway inflammation or a subject that has experienced previous asthmatic symptoms.
3. A method of reducing the severity of an asthma attack comprising administering an anti-C5 antibody to a subject having an asthma attack.
- 10 4. A method of reducing airway obstruction in a subject comprising administering an anti-C5 antibody to the subject.
5. A method of increasing air flow in a subject comprising administering an anti-C5 antibody to the subject.
- 15 6. A method of reducing bronchial spasms in a subject comprising administering an anti-C5 antibody to the subject.
7. A method of treating a chronic obstructive pulmonary disease in a subject comprising administering an anti-C5 antibody to the subject afflicted with a chronic obstructive pulmonary disease.
- 20 8. A method of reducing inflammation in a subject comprising administering an anti-C5 antibody to a subject having established airway inflammation or a subject that has experienced previous asthmatic symptoms.

9. A method of treating a subject having established airway inflammation or a subject that has experienced previous asthmatic symptoms comprising administering an effective bronchial-dilating amount of an anti-C5 antibody.
- 5 10. A method as in claim 8 or 9 wherein the step of administering comprises administering the anti-C5 antibody during an asthma attack.
11. A method as in any of claims 1-9 wherein the subject is a human.
12. A method as in any of claims 1-9 wherein the step of administering an anti-C5 antibody comprises administering an anti-C5 antibody that inhibits 10 the conversion of complement component C5 into C5a and C5b.
13. A method as in any of claims 1-9 wherein the step of administering an anti-C5 antibody comprises administering an anti-C5 antibody that binds to human complement component C5a.
14. A method as in any of claims 1-9 wherein the step of administering an anti-C5 antibody to human complement component C5b9.
15. A method as in any of claims 1-9 wherein the step of administering an anti-C5 antibody comprises administering an anti-C5 antibody selected from the group consisting of h5G1.1, h5G1.1-scFv and functional fragments of h5G1.1.
- 20 16. A method as in any of claims 1-9 wherein the step of administering an anti-C5 antibody comprises administering an anti-C5 antibody that is an antibody comprising at least one antibody-antigen binding site, said antibody exhibiting specific binding to the alpha chain of human

complement component C5, wherein the antibody 1) inhibits complement activation in a human body fluid; 2) inhibits the binding of purified human complement component C5 to C5 convertase.

17. A method as in any of claims 1-9 wherein the step of
5 administering an anti-C5 antibody comprises administering an anti-C5 antibody as an aerosol.

18. A method as in any of claims 1-9 wherein the step of administering an anti-C5 antibody comprises administering an anti-C5 antibody that via a method selected from the group consisting of intravenous infusion by
10 injection and subcutaneous injection.

19. A method as in any of claims 1-9 wherein the step of administering an anti-C5 antibody comprises administering an anti-C5 antibody in combination with a member selected from the group consisting of steroids, anti-IgE antibodies, anti-IL-4 antibodies, anti-IL-5 antibodies, β 2 adreno
15 receptor agonists, leukotriene inhibitors, 5 Lipoxygenase inhibitors, β 2 adreno receptor agonists, PDE inhibitors, CD23 antagonists, IL 13 antagonists, cytokine release inhibitors, histamine H1 receptor antagonists, anti-histamines and histamine release inhibitors.

20. A method for treating a subject having or susceptible to asthma comprising administering at least one member selected from the group consisting of steroids, anti-IgE antibodies, anti-IL-4 antibodies, anti-IL-5 antibodies, β 2 adreno receptor agonists, leukotriene inhibitors, 5 Lipoxygenase inhibitors, β 2 adreno receptor agonists, PDE inhibitors,

CD23 antagonists, IL 13 antagonists, cytokine release inhibitors, histamine H1 receptor antagonists, anti-histamines and histamine release inhibitors in combination with an anti-C5 antibody.

21. A method of treating asthma comprising administering an anti-C5 antibody

5 to the lungs of a subject without substantially reducing systemic complement activity in the subject.

22. A method of treating asthma in a subject comprising administering a compound to the subject, the compound being selected from the group consisting of compounds which bind to one or more complement 10 components, compounds which block the generation of one or more complement components, compounds which block the activity of one or more complement components and compounds which block the engagement of complement component receptors.

23. A method as in claim 22 wherein the step of administering comprises 15 administering an anti-C5a receptor antibody.

24. A method of reducing inflammation in a subject comprising administering a compound to the subject, the compound being selected from the group consisting of compounds which bind to one or more complement components, compounds which block the generation of one or more complement components, compounds which block the activity of one or 20 more complement components and compounds which block the engagement of complement component receptors.

25. A method as in claim 24 wherein the step of administering comprises administering the anti-C5 antibody during an asthma attack.

26. A method as in claim 24 wherein the step of administering comprises administering an anti-C5a receptor antibody.

5 27. A method of treating a subject having established airway inflammation or a subject that has experienced previous asthmatic symptoms comprising administering a compound to the subject, the compound being selected from the group consisting of compounds which bind to one or more complement components, compounds which block the generation of one or more complement components, compounds which block the activity of one or more complement components and compounds which block the engagement of complement component receptors.

10 28. A method as in claim 27 wherein the step of administering comprises administering the anti-C5 antibody during an asthma attack.

15 29. A method as in claim 27 wherein the step of administering comprises administering an anti-C5a receptor antibody.

30. A method as in any of claims 22, 24 or 27 wherein the step of administering a compound comprises administering one or more antibodies directed against a compound selected from the group consisting of complement components C-1, C-2, C-3, C-4, C-5, C-6, C-7, 20 C-8, C-9, Factor D, Factor B, Factor P, MBL, MASP-1, and MASP-2.

31. A method as in any of claims 22, 24 or 27 wherein the step of administering a compound comprises administering one or more

compounds selected from the group consisting of soluble CR1, soluble LEX-CR1, soluble MCP, soluble DAF, soluble CD59, Factor H, cobra venom factor, FUT-175, complestatin, and K76 COOH.

32. A method of preventing asthma attacks comprising prophylactically

5 administering a compound to a subject having established airway inflammation or a subject that has experienced previous asthmatic symptoms, the compound being selected from the group consisting of compounds which bind to one or more complement components, compounds which block the generation of one or more complement components, compounds which block the activity of one or more complement components and compounds which block the engagement of complement component receptors.

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33. A method as in claim 32 wherein the step of administering comprises administering an anti-C5a receptor antibody.

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34. A method of reducing the severity of an asthma attack comprising administering a compound to a subject having an asthma attack, the compound being selected from the group consisting of compounds which bind to one or more complement components, compounds which block the generation of one or more complement components, compounds which

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block the activity of one or more complement components and compounds which block the engagement of complement component receptors.

35. A method as in claim 34 wherein the step of administering comprises administering an anti-C5a receptor antibody.

36. A method of reducing inflammation in the lungs of an asthma patient comprising the step of administering to a subject having or susceptible to asthma one or more compounds selected from the group consisting of soluble CR1, soluble LEX-CR1, soluble MCP, soluble DAF, soluble 5 CD59, Factor H, cobra venom factor, FUT-175, complestatin, K76 COOH and antibodies directed against a compound selected from the group consisting of complement components C-1, C-2, C-3, C-4, C-5, C-6, C-7, C-8, C-9, Factor D, Factor B, Factor P, MBL, MASP-1, and MASP-2.

37. A method as in claim 36 wherein the compound administered reduces the 10 release or production of one or more inflammatory mediators in the airways of the subject.

38. A method as in claim 36 wherein the step of administering comprises administering a compound that acts at the cellular level to reduce the production or release of an inflammatory mediator.

15 39. A method as in claim 36 wherein the step of administering comprises administering a compound that can interact with an active form of the inflammatory mediator to prevent the inflammatory effects associated therewith.

40. A method as in claim 36 wherein the step of administering a compound 20 comprises administering one or more antibodies directed against a compound selected from the group consisting of complement components C-1, C-2, C-3, C-4, C-5, C-6, C-7, C-8, C-9, Factor D, Factor B, Factor P, MBL, MASP-1, and MASP-2.

41. A method as in claim 36 wherein the step of administering a compound comprises administering one or more compounds selected from the group consisting of CR1, LEX-CR1, MCP, DAF, CD59, Factor H, cobra venom factor, FUT-175, complestatin, and K76 COOH.

5 42. A method as in claim 36 wherein the step of administering a compound comprises administering the compound in combination with a member selected from the group consisting of steroids, anti-IgE antibodies, anti-IL-4 antibodies, anti-IL-5 antibodies, β 2 receptor agonists, leukotriene inhibitors, 5 Lipoxygenase inhibitors, β 2 adreno receptor agonists, PDE 10 inhibitors, CD23 antagonists, IL 13 antagonists, cytokine release inhibitors, histamine H1 receptor antagonists, anti-histamines and histamine release inhibitors.

43. A method as in claim 36 wherein the step of administering a compound comprises administering an anti-C5 antibody.

15 44. A method as in claim 34 wherein the step of administering comprises administering an anti-C5a receptor antibody.